REMARKS

This is in response to the Official Action dated June 22, 2006. The present amendments are being presented under 37 C.F.R. § 1.114 as being submitted subsequent to the Request for Continued Examination filed May 31, 2006. Accordingly, Applicant respectfully requests reconsideration and allowance of the present application in view of the above amendments and following remarks.

Non-Responsive Amendment

In the Office Action dated June 22, 2006, the amendment was deemed non-responsive as presenting only claims directed to the non-elected species. As outlined above, the present amendments present only claims directed to the elected invention. Accordingly, Applicant submits that the present amendments are responsive and that the issues raised in the Office Action dated June 22, 2006 have been corrected.

Rejections under 35 U.S.C. § 102(b) and 103(a)

In the Final Office Action dated April 7, 2006 (hereinafter referred to as the "Final Office Action"), independent claim 1 was been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,573,185 to Schwarzkopf (hereinafter referred to as "Schwarzkopf") or, in the alternative, under 35 U.S.C. § 103(a) in view of Schwarzkopf. Applicant respectfully traverses these rejections.

Schwarzkopf discloses a nozzle "that is built so as to preclude end damage during normal use" (*See* Schwarzkopf,

column 1, lines 40-41) which addresses one of the problems with the prior nozzle arrangements, namely,

> that the front end of the nozzle is subjected to considerable stress … [which] exerts a considerable backward force on the end ring, often pushing it back into the space between the sleeve and the body. This not only compresses the heating element, but often lets plastic get into the space between the sleeve and the body where it can bulge out the sleeve …[such that the nozzle] does not fit properly [in the mold] and can get jammed. (*Id.*, column 1, lines 22-32.)

The nozzle of Schwarzkopf includes a tubular steel body 1, a helical heating element 6 wound around the outer surface of the body 1, a thin metal sleeve 7 fitted over the heating element 6, and a ring 9 that is secured in such a manner that the ring 9 "cannot be pushed back in between the sleeve [7] and the body [1] since it is bearing axially backward on the end face of the body [1]" (*Id at* column 1, lines 62-64, and column 2, lines 24-55).

In the Final Office Action, the Examiner stated that the body 1 of Schwarzkopf reads on the nozzle tip retainer of the claimed invention, the ring 9 of Schwarzkopf reads on the seal ring of the claimed invention, and that removable nozzle element 4 reads on the tip insert of the claimed invention. Applicant respectfully disagrees with the Examiner's interpretation of Schwarzkopf and the claimed invention.

Independent claim 1 has been amended to recite, in relevant part, that the "seal ring [is] configured to seal against at least a portion of a mold." Applicant respectfully submits that the ring 9 of Schwarzkopf is not configured to seal against the mold. Schwarzkopf discloses that the arrangement of the nozzle, and in particular the removable nozzle element, is "generally standard" (*Id.* at

column 2, lines 33-34). Referring to FIG. 1, Applicant submits that only the removable nozzle element 4 of Schwarzkopf contacts the mold. In fact, the problem that Schwarzkopf addresses concerns resin which has leaked past the removable nozzle element 4 which then "exerts a considerable backward force on the end ring" (*Id.* at column 1, lines 25-26). To this end, Schwarzkopf discloses that "[t]o reduce the pressure that is backwardly effective on the front face [11] of the ring [9], this front face [11] is frustoconically forwardly tapered" (*Id.* at column 2, line 1-3). It is Applicant's understanding that the "frustoconically forwardly tapered" front face 11 of Schwarzkopf reduces the pressure on the ring 9 by directing the resin between the nozzle and the mold; therefore, the ring 9 does not contact the mold.

In the nozzle arrangement disclosed by Schwarzkopf, only the removable nozzle element 4 of Schwarzkopf is configured to seal against the mold as recited in independent claim 1. However, Schwarzkopf clearly discloses that the "removable nozzle element 4 is screwed into the front (right hand in FIG. 1) end of the passage 5" (*Id.* at lines 28-30) of the body 1, and therefore the removable nozzle element 4 is not fused to the body 1. Accordingly, Applicant respectfully submits that Schwarzkopf does not disclose or suggest all of the limitations of the independent claim 1.

The Examiner has also taken the position that the body 1 and ring 9 of Schwarzkopf are different materials "as shown by the different cross-hatching in figure 3." Applicant respectfully traverses this conclusion.

As discussed above, Applicant submits that the ring 9 of Schwarzkopf is not analogous to the ring seal of claim

1. Nevertheless, 37 C.F.R. § 1.84(h)(3) states, in relevant part,

> Hatching must be used to indicate section portions of an object, and must be made by regularly spaced oblique parallel lines spaced sufficiently apart to enable the lines to be distinguished without difficulty. … Hatching must be at a substantial angle to the surrounding axes or principal lines, preferably 45°. … The parts in cross section must show proper material(s) by hatching with regularly spaced parallel oblique strokes, the space between strokes being chosen on the basis of the total area to be hatched. … The hatching of juxtaposed different elements must be angled in a different way. Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section.

Applicant submits that the body 1 and ring 9 are "juxtaposed different elements" in which the *same* hatching is simply "angled in a different way." While arguably the hatching lines are spaced differently between body 1 and ring 9, the total area of body 1 and ring 9 is different and "the space between strokes [should be] chosen on the basis of the total area to be hatched." Accordingly, Applicant submits that the cross-hatching of body 1 and ring 9 does not disclose or suggest to one of ordinary skill in the art that the body 1 and ring 9 are different materials. Applicant further submits that no support for making the body 1 and ring 9 from different materials can be found in the written description of Schwarzkopf. Should the Examiner disagree with either of these positions, explicit support in the description of Schwarzkopf is respectfully requested.

Applicant further submits the same arguments apply to the removable nozzle element 4. Accordingly, Applicant respectfully submits that Schwarzkopf does not disclose or

suggest all of the limitations recited in independent claim 1 and therefore the rejection under 35 U.S.C. § 102(b) is improper and should be withdrawn.

Regarding the Examiner's alternative position (i.e., that different materials other than steel are well known), Applicant respectfully traverses this conclusion. While Applicant agrees that materials other than steel are well known, Applicant submits that the mere fact that materials other than steel are well known is not sufficient to support the Examiner's position. Schwarzkopf discloses that the body 1 is made from tubular steel which is generally strong. Schwarzkopf further discloses that the object is to provide a nozzle "that is built so as to preclude front end damage during normal use" (See Schwarzkopf, column 1, lines 40-41). To this end, Schwarzkopf discloses a ring 9 that "cannot be pushed back in between the sleeve [7] and the body [1]" (*Id.* at lines 62-63).

Accordingly, one skilled in the art would likely be motivated to manufacture the body 1 and the ring 9 out of the same material having sufficient strength, namely, steel. Moreover, for the reasons discussed above, the ring 9 of Schwarzkopf is not configured to contact the mold and therefore whether the ring 9 is the same material as the body 1 is irrelevant. With respect to the removable nozzle element 4 of Schwarzkopf, even if one where to modify the removable nozzle element 4, the resulting product would still not include all of the limitations of the claimed invention since the removable nozzle element 4 is not fused to the body 1. Therefore, Applicant submits that the rejection of independent claim 1 is improper and should be withdrawn.

Regarding dependent claim 2, Applicant respectfully submits that Schwarzkopf does not disclose or suggest all of the limitations. Claim 2 recites a nozzle tip "wherein the junction is oriented substantially radially". For the reasons discussed above, the ring 9 of Schwarzkopf is not analogous to the seal ring of the claimed invention. Moreover, the removable nozzle element 4 of Schwarzkopf is not fused as recited in independent claim 1. Nevertheless, Applicant further submits that the junction between ring 9 and body 1 of Schwarzkopf is not "orientated substantially radially."

Referring specifically to FIG. 3 and column 2, lines 51-54, Schwarzkopf discloses that "[t]he ring 9 is secured by an outer weld 12 between the lip 14 [of the ring 9] and the front end of the sleeve 7 and an inner weld 12 filling the triangular-section gap between the inner surface of the ring 9 and the surface 8 [of the tubular body 1]" (*Id.* at column 2, lines 52-55). More specifically, Schwarzkopf clearly discloses in FIG. 3 that the ring 9 is only secured to the body 1 by inner weld 13 which is substantially along the longitudinal axis A of the body 1. In contrast, the outer weld 12 only secures the ring 9 to the sleeve 7.

In the Office Action dated March 8, 2005, the Examiner stated that "This application contains claims directed to the following *patentably distinct* species of the claimed invention: Species A, figure 1; Species B, figure 2; Species C, figure 9; Subspecies aa, figure 4; Subspecies bb, figure 8." Should the Examiner conclude that it would be obvious to modify Schwarzkopf to include a "substantially radially" orientated junction which is fused, clarification of the restriction requirement between

subspecies aa and bb is respectfully requested. Accordingly, Applicant submits that Schwarzkopf does not disclose or suggest all of the limitations of claim 2.

Regarding dependent claim 20, Applicant respectfully submits that Schwarzkopf does not disclose or suggest "a tip insert, wherein said tip retainer is configured to receive and retain said tip insert against said nozzle housing." In the Final Office Action, the Examiner pointed to removable nozzle element 4 as reading on the tip insert of the claimed invention and stated in the *Response to Arguments* section that "Schwarzkopf's injection molding machine to which the nozzle of figure 1 is mounted is considered to be the nozzle housing." However, referring to FIG. 1, the "removable nozzle element 4 is screwed into the front (right hand in FIG. 1) end of the passage 5 [of the body 1]" (Schwarzkopf, column 2, lines 28-30; Emphasis added) and the body 1 is not configured to receive and retain the removable nozzle element 4 against the injection molding machine of Schwarzkopf. Accordingly, Applicant submits that Schwarzkopf does not disclose or suggest all of the limitations of claim 20.

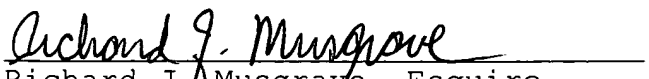
Regarding claims 32-48, Applicant respectfully submits that these claims are allowable for at least the reasons discussed above.

Conclusion

For at least the reasons discussed above, Applicant submits that all pending claims are in condition for allowance. Early and favorable action is respectfully requested. The Examiner is invited to telephone Applicant's Attorney, Richard J. Musgrave, at the number

listed below to facilitate advancement of the present application.

Respectfully submitted,



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